AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No.: 09/202,216

REMARKS

Claim 12 has been amended for clarification, to recite that the thickness of each unit of the coating layer is selected such that each layer has an interference peak or bottom at the same specific wavelength. Support is found, for example, at page 20 of the substitute specification.

Support for claim 13 is found, for example, at page 8, lines 1-4 from the bottom (i.e., plural coating layers formed on each base particle). Support for claim 14 is found, for example, at page 9, lines 4-6 of the specification, and support for claim 15 is found, for example, at page 40, lines 2-6 from the bottom.

Entry of the amendments is respectfully requested.

Review and reconsideration on the merits are requested.

Claims 1-7 and 9-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 4,820,518 to Murphy et al in view of U.S. Patent 3,767,443 to Clark et al.

Murphy et al was cited as teaching a powder particle (base particle) within the scope of the claims that is coated with a mixture of pigments. The Examiner relied on Clark et al as teaching multilayer-coated powder pigments containing plural layers of a metal oxide and an organic film-forming substance that have different refractive indices. The reason for rejection was that it would have been obvious to provide the powder particle of Murphy et al with the plural coating layers of Clark et al having different refractive indices in order to increase reflectance as taught by Clark et al.

Applicants traverse, and respectfully request the Examiner to reconsider for the following reasons.

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Murphy et al discloses a non-pressed cosmetic powder containing hydrophobic inorganic pigments. More particularly, the cosmetic powder is prepared from a slurry containing a finely divided filler or powder, a binder, a volatile carrier and cosmetic coloring materials. The finely divided filler or powder can take the form of a cosmetically acceptable powder such as aluminum hydroxide, kaolin, talc, mica, etc. (col. 2, lines 24-38). The cosmetic coloring materials include inorganic pigments coated with a non-polar water insoluble organic dielectric material (claim 1 of Murphy et al).

Thus, Murphy et al discloses powder and pigments in admixture, but does not disclose a base particle surrounded by plural coating layers as required by present claim 1. The only "coated" particles in Murphy et al are inorganic pigment particles coated with an organic dielectric material to render them hydrophobic and free of static charge (claim 1 of Murphy et al).

In the present invention, the plural coating layers differing in refractive index impart color to the powder by a reflection and interference phenomenon. This is entirely different from Murphy et al in which a coloring pigment is added to the cosmetic powder to impart color.

In the prior application, the claims were amended to recite that the multilayer-coated powder comprises a base particle surrounded by plural coating layers which are different from each other in refractive index, to thereby distinguish over the comminuted plural platy layers of Clark et al.

The apparent reason for rejection was that it would have been obvious to provide the powder of Murphy et al with the plural coating layers of Clark et al having different refractive indices so as to increase the reflectance of the Murphy et al powder. However, there is no

technical motivation to impart color to the Murphy et al powder by providing plural coating films of differing refractive index. This is because the cosmetic powder disclosed by Murphy et al. already contains cosmetic coloring materials including pigments in admixture. Thus, there is no need and no motivation to one of ordinary skill in the art to adopt the entirely different coloring system of Clark et al.

Moreover, there is nothing in the prior art which teaches or suggest that the thickness of each unit of the coating layer is selected such that each layer has an interference peak or bottom at the same specific wavelength as required by present claim 12.

The present invention concerns a pigment powder, where the feature for imparting color is in the powder itself (i.e., not in an auxiliary pigment as taught by Murphy et al). To the extent that the Examiner suggests that it would have been obvious to somehow modify the powder of Murphy et al to incorporate a base particle (core) surrounded by plural coating layers, it is respectfully submitted that the Examiner is drawing on Applicants' teachings in the specification, namely hindsight reconstruction of the present invention.

As discussed in previous responses, the particle of Clark et al has no core, and is produced by removing plural layers from a belt, followed by comminuting. Accordingly, the particle does not have a core on which plural layers have been coated, whereas the powder of the present invention requires a core (base particle) surrounded by plural coating layers which are different from each other in refractive index.

Moreover, in Clark et al, a peak or bottom is not corrected, and optimization of wavelength is not taken into account as required, for example, by present claim 12. Clark et al discloses a formula corresponding to equation (1) at column 6, lines 25-26. However, the

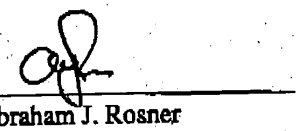
powder of the present invention is brightly covered because the wavelength of the peak or bottom is made uniform among the constituent layers by correction as set forth in equation (2) of present claim 12. None of this is disclosed by the prior art relied upon by the Examiner.

New claims 13 (the plural coating layers are formed on individual base particles); claim 14 (the plural coating layers are formed as a continuous film surrounding individual base particles); and new claim 15 (containing no dye or pigment) further define over the applied prior art.

Withdrawal of all rejections and allowance of claims 1-7 and 9-15 is earnestly solicited.

In the event that the Examiner believes that it may be helpful to advance the prosecution of this application, the Examiner is invited to contact the undersigned at the local Washington, D.C. telephone number indicated below.

Respectfully submitted,



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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

12. (Amended) The multilayer-coated powder according to claim 1, wherein the thickness of each unit of the coating layer is selected such that each layer has an interference peak or bottom at the same specific wavelength and is determined by fixing a fundamental film thickness thereof which satisfies the following equation (1):

$$N \times d = m \times \lambda/4 \qquad (1)$$

(wherein N represents a complex refractive index, d represents the fundamental film thickness, m represents an integer (natural number), and λ represents the wavelength at which the interference reflection peak or interference transmission peak appears, and N is defined by the following equation (2):

$$N = n + i\kappa \qquad (2)$$

(wherein n represents the refractive index of each unit coating layer, i represents complex number, and κ represents extinction coefficient)), and correcting the actual thickness of the each unit of the coating layers based on the function of the phase shift caused by the extinction coefficient κ of refractive index, the phase shift occurring at film interfaces, and the peak shift attributable to refractive index dispersion and particle shape so that the each unit of the coating layers has an interference reflection peak or an interference transmission bottom at the same specific wavelength.

Claims 13-15 are added as new claims.